



CORDELL BANK NATIONAL MARINE SANCTUARY SANCTUARY ADVISORY COUNCIL

MEETING MINUTES

November 3, 2016

9:30 AM

Point Blue Conservation Science, Petaluma, CA

Note: The following meeting notes are an account of discussions at the meeting of the Sanctuary Advisory Council for Cordell Bank National Marine Sanctuary (CBNMS). The council is an advisory body to the sanctuary superintendent. The opinions and findings of this publication do not necessarily reflect the position of CBNMS and the National Oceanic and Atmospheric Administration (NOAA).

Call to Order/Roll Call/Welcome (George Clyde)

George Clyde, Advisory Council Chair, called the meeting to order at 9:31 AM and welcomed everyone. He then asked people to introduce themselves, in lieu of a roll call.

Members and Alternates Present:

George Clyde (Chair; Community-at-Large – Marin County)

Mike Cummings (Community-at-Large - Marin County Alt.)

Bill Wolpert (Community-at-Large-Sonoma County)

Sarah Hameed (Community-at-Large – Sonoma County Alt.)

Lance Morgan (Conservation)

Todd Steiner (Conservation Alt.)

Leslie Adler-Ivanbrook (Education)

Bec Detrich (Education Alt.)

Richard Ogg (Fishing)

Noah Wagner (Fishing Alt.)

Kevin Krick (Maritime Activities)

John Berge (Maritime Activities Alt.)

Tessa Hill (Research Alt.)

Agency Representatives and Alternates Present:

Brian Johnson (Greater Farallones National Marine Sanctuary [GFNMS] Alt.)

Members of the CBNMS staff present:

Dan Howard (Sanctuary Superintendent)

Michael Carver (Deputy Superintendent and Resource Protection Coordinator)

Lilli Ferguson (Resource Protection Specialist and advisory council coordinator)

Danielle Lipski (Research Coordinator)

Jennifer Stock (Education and Outreach Coordinator)

Approve Agenda (George)

The agenda was reviewed and unanimously approved by the advisory council

Review and Approve Minutes (George)

- The advisory council reviewed the August 25, 2016 joint meeting minutes of the advisory councils for CBNMS and Greater Farallones National Marine Sanctuary (GFNMS). John Berge asked that a sentence on p. 5 be reworded to read: "John Berge added that the companies might not be aware, since the advisories are going out to ships themselves." Bill Wolpert moved, and Lance Morgan seconded, approval of the minutes with this change. The motion was unanimously approved the advisory council. If the GFNMS advisory council makes further edits to the minutes when it reviews the version with this

change at the next meeting, and they are minor, the CBNMS advisory council agreed it would not need to also approve those. Any major changes, however, would need to come back to the council for approval.

- The advisory council reviewed the minutes of the August 25, 2016 CBNMS advisory council meeting. Kevin Krick asked the minutes be corrected to state he adjourned the meeting. Lance moved, and Tessa Hill seconded, approving the minutes with this change. The motion was unanimously approved by the advisory council.

Announcement of Appointments (Dan Howard)

- Dan Howard, Sanctuary Superintendent, announced the following were reappointed by the Office of National Marine Sanctuaries (ONMS) Director to new terms on the advisory council: Leslie Adler-Ivanbrook, Education seat, member; Dick Ogg, Fishing seat, member; and Noah Wagner, Fishing seat, alternate. He also announced that the director appointed Bec Detrich to an initial term to the Education seat, as alternate.

- Bec noted she had been doing education work for about 12 years, and had worked at places such as the Catalina Island Marine Institute and NatureBridge, and is now with Westminster Woods. There she does field science with about 200 kids a week, from the Bay Area and farther afield.

Advisory Council Business – Potential Charter Amendment on Changing Nongovernmental Alternates to Members/Eliminating Alternate Positions (George and Lilli Ferguson)

- George said he wanted to propose to eliminate the distinction between nongovernmental members and alternates on the advisory council. Alternates cannot serve as officers. This would not result in a change in how members are recruited. Most advisory councils do have alternates for members, but he thought that stemmed back to government practices to have an alternate attend when a member could not make it, or when councils had disagreement. Governmental alternates on the advisory council would be retained. He asked ONMS headquarters folks about this in January, and they said it was appropriate to raise the question.

- Dan asked the Flower Garden Banks National Marine Sanctuary Superintendent, G.P. Schmahl, about his experience, as his site went through this process. G.P. said there were no negative repercussions and the process went smoothly. Dan added converting alternates to members could be unwieldy for larger advisory councils, or could exceed a cap some have on members.

- George said the question of a bigger quorum came up, and he thought it would be easier, as alternates often attend the meetings anyway.

- Lilli Ferguson, advisory council coordinator, said the quorum was currently four, and under the proposal, would be eight (members that would need to be present for a vote to occur). She looked at the numbers attending advisory council meetings and the retreat for a year, from the November 2015 retreat, and as a whole, members attended 91% of the time, and alternates attended 74% of the time.

- The question arose if any other seats not currently listed in the charter should be added. Dan said this came up during the expansion processes and the conclusion was there were no new constituent groups that are not already represented, so no seats need to be added.

- Bill moved, and Leslie seconded, a motion to eliminate the distinction in the charter between primary and alternate [positions] for nongovernmental seats.

Further discussion ensued.

- There was a recommendation that the charter amendment be sent to the ONMS Director for approval.

- There was a comment that it was awkward to have “governmental” before “alternates” throughout.

- Lilli explained how the charter renewal process worked, and that it was ONMS that makes the approval; a full charter update can be a six-month process, but changes like this should take less time. She also explained the difference between governmental seats and nongovernmental seats. She said she would look at the text to see where “governmental” might be removed and how else to make the desired changes clear.

The council voted unanimously to pass the motion.

- Lilli will send the proposal to the ONMS staff and will work with them on any questions or additional text changes. If signed, nongovernmental alternates would become members right away, and would finish out their existing terms as members. Likely Dan would send a letter to those people about the change.

Sanctuary Superintendent's Report (Dan)

- Regarding the ONMS budget, CBNMS may be level-funded again this fiscal year. He submitted a budget request internally, which included about 11 projects, including contract positions. In the spring, he should hear if ONMS funded the full request, or which parts were funded. Applied California Current Ecosystem Studies (ACCESS) is a high priority project he hoped would be fully funded.
- John Armor has been selected as the ONMS Director. He has been acting in the position for a while, so there should be a smooth transition. The operations might be a bit different, but many of the projects are the same. Moving forward, he will be building relationships within NOAA.
- Kris Sarri was appointed as President of the National Marine Sanctuary Foundation (NMSF). Recently, Dan and Maria Brown took Kris and some NMSF board members to the Point Reyes Lighthouse to see the educational exhibits, then they visited Fort Ross and talked about the doghole port project. They stayed overnight in Gualala, then toured the coast south and ended up at the GFNMS office. Kris has worked for the Office of Management and Budget and so understands budgets and how money moves through government offices. She will work on bringing in outside funds.
- In November, the Pacific Fishery Management Council (PFMC) will be having a meeting. That council is working to select a preferred alternative for Essential Fish Habitat (EFH), from among approximately eight proposals. CBNMS has been working with a collaborative on a proposal. GFNMS, MBNMS are also submitting proposals. CBNMS and the other sanctuaries are just talking about no bottom trawl areas in this process.
- There was a question about the Rockfish Conservation Areas (RCA), and Dan said those were created to rebuild rockfish stocks, and some were being removed as stocks were rebuilt. He did not think they were meant to be permanent, while EFH areas are meant to be more permanent, he felt. CBNMS has not been involved in discussions on the RCA.
- Lance commented his organization would be opposed to increasing bottom trawling within CBNMS and other sanctuaries. He felt the different areas were connected.
- All the conversation right now is around the bottom trawl RCAs, not on other gear types.
- After the Superintendent's report, Lance offered to draft and share a letter to John Armor congratulating him. The advisory council and Dan were agreeable, and George said a formal motion was not needed. He asked Lance send the draft to him, Kevin, Dan and Lilli.

CBNMS Progress on Initiatives to Assess Climate Change and Mitigate Impacts (Dan)

- Among the issues discussed at the retreat was climate. Dan wanted more time to discuss points Tessa presented on in April, and that agenda item follows this one. To set the stage for that discussion, Dan reviewed by CBNMS had been doing since the previous Management Plan was completed in 2008. That plan mentioned climate, but did not have a specific climate has moved to forefront for many people, with impacts and changes occurring now.
- Climate change considerations are integrated into just about everything CBNMS does; for example, in discussing fisheries closures, leaving the bottom communities in an undisturbed state might help them when adapting to climate change stressors. Information gained from fish and mammal surveys will also help in addressing climate issues.
- CBNMS has been a part of producing some publications: Condition Report 2009, Climate Change Impacts, Report of a Joint Working Group of the GFNMS and CBNMS Advisory Councils 2010, ONMS West Coast Region Ocean Acidification Plan 2011, and Ocean Climate Indicators for the North-Central

California Coast 2013. He reviewed some of the key points from these, focusing particularly on ocean acidification strategies and activities.

- In 2013, he and Danielle Lipski, CBNMS Research Coordinator, participated in a group run by GFNMS on indicator species. GFNMS plans to release a climate plan at its November advisory council meeting. The planned inventory of existing activities is done. Also, ACCESS has identified appropriate measurements and a sampling plan. Some oxygen and temperature sampling has been done. There is a proxy that allows for measuring ocean acidification from those data. CBNMS is working with Tessa and some of her graduate students to put together a plan to monitor ocean acidification in CBNMS and GFNMS.

- Each of the CBNMS programs and administrative activities have addressed climate change in various ways, and he reviewed them. Some highlights are: talks during the monthly Ocean Currents radio program, an exhibit panel on our changing ocean planet at the Ocean Exploration Center at Point Reyes, the Deep Corals Community and other curricula (links to these are on the CBNMS website), ACCESS (13 years systematic surface and water column oceanographic characterization), benthic science (including developing a long term strategy), oceanographic monitoring (for dissolved oxygen, temperature, salinity), presentations at advisory council meetings, ONMS climate committees, staff participation in workshops and meetings, habitat protection in general (a healthier environment could help in adaptation to climate stressors), saving carbon by telecommuting and webinars; energy saving features and solar panels in renovated offices, hybrid car lease, and possible plans for a green review of CBNMS administration (following GFNMS model).

- Importantly, CBNMS works with various partner organization experts, utilizing their data, experiences, and input in CBNMS management.

- There was a question about if the government could get involved in carbon offset. Dan said it was not allowed in the federal travel program, but he was not sure if a donation could be made or not at the local level.

- There was a comment about GFNMS monitoring tons of carbon produced, and efforts at reducing that. Dan said CBNMS would start this year with a similar effort.

Follow up to “Ocean Acidification, Deep Sea Corals, and Implications for CBNMS”; Discussion of Next Steps for CBNMS and the Advisory Council in Addressing Climate Change Issues (Tessa Hill, George and Dan)

- Tessa, who presented on this topic in April, went over what ocean acidification is, species at risk, and how it poses threats (ex: Dungeness crab survival), as well as some results from a coral/water chemistry cruise in 2010.

- The people in the room have opportunities for leadership based on the West Coast being at the forefront of impacts, and serving as an example for other regions, and CBNMS has an excellent record of partnering with local scientist to monitor ocean conditions, including ACCESS. The accelerating science of acidification & hypoxia will expand the management options available. There is a cost to inaction. If we do nothing, things will be worse, and harder to address. Discussion ensued around two questions, what opportunities are there for CBNMS efforts to interface with other local, state & federal efforts, and how can the Sanctuary Advisory Council support or engage further with these issues.

- Tessa wrote up three suggested high priorities: 1) continue to fill gaps in knowledge, like monitoring, target species of interest; 2) communicate risks to constituencies, both within NOAA and others; and 3) think about ways to build resilience and reduce stressors.

- Corals on the Great Barrier Reef in Australia are impacted by ocean acidification. Protected areas and fisheries managers there said the number one thing to increase resilience would be to protect habitat, including creating more protected areas. Lance has a paper on this he is happy to share. Some argue protected areas can be considered “climate reserves.”

- Funding is a factor. Generally, the sanctuaries’ budgets have seen no additions to base, or have seen limited, one-time funding for specific items. It is a leading issue for CBNMS and the region, but some people are still unsure about the climate changing, while others are less afraid to talk about observed

changes (ex: impacts on krill and forams). CBNMS does not have sustained funding to address climate change now, but Dan thought that would change over time. NOAA's Office of Ocean Acidification has been fairly well funded, and there is a desire to engage further with that office. Dani applied to attend an upcoming NOAA meeting organized by that office, and others from the West Coast Region may also attend. There was a general desire work with the Office of Ocean Acidification to increase the funds coming to sanctuaries.

- CBNMS projects that could use funding include remotely operated vehicle (ROV) work to look at acidification and other climate impacts with Bodega Marine Laboratory, and ACCESS climate work (Dan requested FY 17 funding for those). Maintaining a mooring permanently for ocean acidification monitoring is another need, including managing the data gained. If NOAA funding is not available, external grants could be sought; the donor community should be engaged.

- There was a desire to explore if there are other strategies for promoting benthic protection. The EFH process relates to that, though it is more about habitat protection than specifically about buffering against climate change. There has been, and will be, a focus on deep corals.

- Work on community biodiversity and resilience, as well as genetic health, might buffer species from ocean acidification. Theoretical work on such community resilience could serve as a foundation for consideration of management actions, by showing protecting habitat is beneficial. That kind of work and thought is being done, but CBNMS also has unique habitats in which the community resilience has not been studied. Perhaps there a synthesis (a paper) or working group on how building genetic diversity or species diversity might build resilience to disturbance, and motivate habitat protection.

- There is the potential for communication about what is happening with ocean acidification to definitively show climate change is happening, more than discussions of drought, snow levels, etc., and as such, the "white noise" around climate change might be eliminated. That plus the fact CBNMS is offshore and isolated could be used to market it as a good spot to study. CBNMS should seek funding for that.

- Some people see climate change as a trend, and are not sure how far it will go. Research defining tipping points could help with public perception. At a certain point, the trends are not reversible, and people need to know about "thresholds" that have been or may be reached. The communication on this is very important. Some people are concerned and some are not. Communicating about things that actually affect them, like the loss of crab and other shellfish (including focusing on local needs, such as oysters vs. krill, or impacts on people's food), can help, along with more work among sanctuaries and other partners to find solutions.

- Besides research on tipping points (a lot has already been done on this), research to help managers make wise decisions is needed.

- There was a suggestion to approach climate change research like has been done with toxicity testing for oil spills/dispersants, including finding the critical thresholds for species of interest

- A primary source of greenhouse gas emissions for CBNMS will likely be driving automobiles, which can be addressed with some telecommuting, but also valued is face to face interactions in the office, so connections are maintained.

- The Center for Climate Protection, along with Sonoma Clean Power, have deep discounts for leasing electric vehicles in Sonoma County.

- There was a short version of the National Network for Ocean and Climate Change Interpretation (NNOCCI) communications training at the January 2016 Sanctuary Advisory Council Summit, about how individuals can communicate key messages about a changing climate others who may not have an understanding about the ways in which the climate is changing. Lilli stated ONMS staff have offered to give this training to individual advisory councils, in person (if there is funding for travel) or possibly via webinar, if there is interest. Jennifer Stock, CBNMS Education and Outreach Coordinator, added it would be important to determine what the advisory council would do with that, in terms disseminating the information, and what outcomes would be expected.

- There was a desire to have the sanctuaries be climate sentinels, built into the management and day to day decisionmaking at the sites. Olympic Coast National Marine Sanctuary has designated itself as an ocean acidification sentinel site, and held a workshop on the topic.

- The efforts to reach out to other communities beyond local Sonoma and Marin County constituencies was reviewed, including media efforts and CBNMS participation with other collaborative efforts. There are a number of small-scale efforts taking place. All of us need to be trained to communicate about climate change.
- If there are tools that are not already online for communication with teachers, students, inland communities, local constituents who have not yet been reached, etc., it would be useful to post them and then promote where they can be found.
- There is an opportunity to reach students through next generation science standards curricula.
- Many people are not aware that ocean acidification is a problem; if you make them aware they may not believe you.
- Educators in the West Coast national marine sanctuaries want to make climate change/ocean acidification the topic of highest priority.
- GFNMS worked to position itself as a climate center of excellence, and secured funding for climate programs. Since CBNMS is an “offshore laboratory” and is working on ocean acidification, those two points should be used when asking for funding.
- The sanctuaries’ West Coast research team plans to update the regional ocean acidification plan. Once completed, Dan said it could be brought back to the advisory council.
- The advisory council will continue to discuss the overall topic of climate change and components of that moving forward.

Public Comment

- There was none.

CBNMS Research, Education, and Resource Protection Reports (Danielle, Jennifer, and Michael Carver)

- Research: Danielle reported on outcomes for 2016. There were three ACCESS cruises in 2016, involving seven graduate students, six collaborators and one Teacher-at-Sea; there were seven ACCESS presentations and four papers; and there were five media pieces about ACCESS. CBNMS is working to use ACCESS information a little more broadly than in the past.
- Bay Area Underwater Explorer (BAUE) divers spent three days diving Cordell Bank. They also dove the bank in 2013 and 2014, but were weathered out in 2015. CBNMS issues a permit to allow the group to place equipment on the bank, and they collect specimens, and shoot video and photographs, which they provide to the CBNMS staff. They revisited the northwest ridge, but did not locate the transect established in 2014, so could not resample there or install some temperature sensors. The divers did revisit two sites. The imagery they provide can be used in many different products about Cordell Bank.
- The last hypoxia monitoring buoy was recovered in September. CBNMS is now working with the data to develop some products.
- The Beyond the Golden Gate Research Symposium is taking place December 1 in Tiburon. Nearly 40 abstracts for oral presentations were received.
- Looking at the rest of FY 2017, ACCESS and benthic science continue. There will be a 2014 survey report, development of a long term strategy, and the Ocean Exploration Trust’s Nautilus may survey in CBNMS. CBNMS hopes to get an intern, graduate student. The hypoxia mooring and acoustic buoy will be recovered, and their data analyzed. In addition, CBNMS research and evaluation support will aid the CBNMS efforts to address ship strikes of whales.
- Education: Jennifer started with the ONMS education mission, to inspire ocean and climate literacy and conservation through national marine sanctuaries.
- Two draft ONMS West Coast Region education priorities, have been provided to the superintendents and Regional Director. The first is a climate change education community assessment, which would assess bringing sanctuary ocean messages about ocean acidification and the changing ocean to

community energy and sustainability programs already in place, for strengthening connections between energy use and ocean health. The second is an ocean acidification/climate change solutions inventory, to use the NNOCCI tool bank of solutions as a model to develop a regional sanctuary strategy for carbon reduction actions, through education and outreach programs and initiatives. Sanctuary staff would work with identified partners to deliver key messages promoting energy, climate and ocean conservation.

- A toolkit, “Visualize Change: A toolkit for informal educators using visual narratives on climate change”, was funded by an environmental literacy grant from the NOAA Office of Education. The website is www.vischange.org.

- CBNMS has a new website. We worked with a national team to have a more visual, responsive design. Some updates will need to be made.

- Jenny’s goal with social media is to bring awareness about CBBNS and its unique properties to more people. She is working with a social media intern, a student from Tessa’s lab, on content and to increase the social media audience.

- She got some funds this year to translate the travelling photo exhibit text into Spanish (it is already available in English), and upcoming locations for the exhibit. She is also working with the National Park Service to translate the Ocean Exploration Center exhibit panels into Spanish.

- A volunteer is working with Jennifer on “Positively Ocean”, to focus on positive news stories, which she plays on the Ocean Currents radio show. Five high school volunteers are working on written transcripts of the radio shows, with a teacher. Jenny also started a KWMR Twitter feed about the radio show.

- There was a suggestion to have the photo exhibit at the Falkirk Cultural Center in San Rafael, former home of Robert Dollar, who owned the Dollar shipping line. The ships used to run over the waters of what is now CBNMS.

- CBNMS is a partner on a grant proposal to adapt the international carbon footprint calculator, from a high school to a middle school audience. If the grant is received, Jenny would hold watershed workshops for inland teachers, focused on following water issues from inland to the ocean, and impacts on the ocean as well as the sanctuary. There would be an opportunity for teachers to interact with experts on the issues. They would also get curricula and activities.

- Jenny applied for small grant with Leslie Adler-Ivanbrook/Point Reyes National Seashore Association to build capacity with partners to reach school children, using the Winged Ambassadors microplastics curriculum. It would entail classroom activity, including a bolus analysis, then a field trip to monitor microplastic at the beach. Possibly a graduate student from Bodega Marine Laboratory could do the classroom instruction.

- Resource Protection Report: Lilli, CBNMS permit coordinator, provided an overview of two new national marine sanctuary permit amendment applications received since the last advisory council meeting, and two other applications that continued to pend. The new applications were from National Marine Fisheries Service (NMFS), Northwest Fisheries Science Center to adjust the GFNMS areas excluded from groundfish bottom trawl surveys and from BAUE to allow placement and recovery of the temperature sensors on the seafloor in CBNMS. The two still pending were to change the permittee name and some of the activity language and conditions, from NOAA National Data Buoy Center, for West Coast Buoys and from NMFS, Southwest Fisheries Science Center, for marine mammal and sea turtle assessments.

- Michael Carver, CBNMS Resource Protection coordinator, reviewed the CBNMS prohibitions on discharging. One of the things is applies to is no discharging food (chum) to attract seabirds during birdwatching trips.

- The seasonal Voluntary Speed Reduction (VSR) for commercial vessels, for avoiding lethal ship strikes of whales, will be over for the season in about two weeks. Each company will be receiving a letter related to their ships and willingness to adhere to the VSR. Sanctuary staff receive the data on ship speed and location from the USCG, then analyze it, for use in the letters. He provided statistics on ship strikes of

whales in 2015 and 2016 and strandings. He also reviewed some other causes of marine mammal death besides being struck by ships. In 2017, funding may possibly be used as an incentive to slow ships down.

- Michael has been helping with marine mammal entanglement efforts. He took a training, and within a week, was participating in an effort to find a humpback whale entangled in gear off Point Reyes. When trying to free an entangled marine mammal, trained rescuers try to approach as little as possible. In the last year, most of the gear involved in entanglement was for Dungeness crab, but that is not always the case. Dick said Dungeness crab gear uses two buoys and long lines. He will look for the gear in Drake's Bay and pick it up when he can. He noted he picked up fewer pots this year under the SeaDoc Society [Kirsten Gilardi] permit than before, but this year pots were also picked up by Fish and Wildlife and The Nature Conservancy.

Cordell Marine Sanctuary Foundation (CMSF) Update (Bob Van Syoc)

- Bob Van Syoc, CMSF President, passed around a year-end appeal letter, which listed the major ocean research and education project CMSF supported over the past year. He briefly touched upon each project.
- He talked about working in the future with the NMSF and Kris. The draft vision of the NMSF envisions the foundation working more closely with local friends of sanctuaries group, to hear their concerns, and to have teleconferences focus on more than just reports from the local groups. Bob suggested having a discussion among NMSF staff members and the local groups of an overarching project that could be worked on individually and together; he suggested climate change, including ocean acidification. Kris could market the idea to prospective funders, to provide funds to existing local groups (vs. a top-down, national project). Kris suggested capacity building as a topic for their teleconferences (or webinars) moving forward.
- Many of the other sanctuaries have no local foundation or friends group, and some have local chapters of the NMSF.
- He reviewed the status of the board. Two members left recently, and two new people will join the board at the next meeting, bringing the total to seven members. The board may have nine members, and CMSF will continue to see qualified candidates.

Members' and Alternates' Reports (advisory council)

Jason Brand: The United States Coast Guard (USCG) is working to continue improving quick response sheets for whale entanglement teams. The USCG can assist in sighting whales by flying over an area or bringing people out to locate the whales. Or, he can try to assist if rides are needed from the USCG for any reason.

Kevin: On the global front, the ballast water management convention, adopted in 2004 by the International Maritime Organization (IMO), will go into force in 2017, due to a tonnage percentage having been met. This will mean a higher standard worldwide for handling and treating ballast water, to mitigate transfer of invasive species.

- An IMO subcommittee on marine environmental protection working availability of .5 % sulfur fuel for the shipping industry, and trying to have refiners produce it by 2020 or 2025. They analyzed the issue and concluded it will be able to be produced for use by the maritime sector by 2020, so the fuel will be capped at .5% sulfur content worldwide. This will lessen, worldwide, the amount of sulfur going into the ocean. John Berge added it is much lower within 200 miles for California.

Tessa: One outcome of the West Coast ocean acidification and hypoxia panel was an inventory effort to determine who is conducting monitoring; now there is an effort to try to map the monitoring effort and determine where holes are. She let them know about the ACCESS cruise work, which she hopes will be listed in the inventory.

- Proposition 84 funded the inventory, and funds other research projects along the coast, such as on fisheries and sea level rise.

- She is teaching a short, six-day course for graduate students at Bodega Marine Laboratory, and Jennifer will be there one day talking about the different ways scientific topics may be communicated.

Leslie: She collaborated, as mentioned previously, on a grant proposal to address plastics in the ocean and on a class in late February; she will also introduce some ocean acidification issues.

- There are plans to try to organize a science fair at West Marin School, for several local schools, focusing on marine and environmental science.

Dick: The crab season will start soon. The Bodega Bay and Russian River areas have higher levels of domoic acid than is acceptable and the Department of Public Health decided to open the area from the bottom of Point Reyes to Pillar Point for crabbing. If the Bodega Bay area is not reopened, the fleet will be concentrated around the Farallon Islands and down to Pacific. This would be a concern for whales and for small vessels traveling in potentially dangerous conditions. He was not for opening the area by sections. He and others will be collecting samples for more testing, with the results to be available later in the week. The issue of opening the whole district vs. by section will be revisited next year, and legislation may be proposed. Recreational crabbing is open at Bodega Bay; it can be opened with an advisory to people not to eat the intestinal areas of crabs.

Sarah Hameed: She gave Lance Morgan's report. There is proposed federal legislation to create a national marine conservation area off the California coastline to protect a number of seamounts. It may not move forward now, but consortium is working to keep the issue alive for possible future action.

- The 20th anniversary of the Marine Conservation Institute is the night of November 4; a celebration and fundraiser will be held.

- The Marine Conservation Institute will support a different proposal on EFH that is not supportive of opening any RCAs, which would allow more trawling in CBNMS.

- A marine protected area in the Ross Sea was announced.

- Lance joined a Hope Spots Mission Blue effort, working on Mission Blue butterfly conservation and on designating biologically important marine areas around the world as priorities for conservation.

- For her own report, she announced an upcoming Sonoma County workshop, put on by the permitting department, to be held at Bodega Marine Laboratory on November 29, 4 – 6 PM. A public comment period is currently open (until November 19) on a proposed public trail easement on the north side of Estero Americano.

- There is a heat for women, for the first time, this year at the Maverick's Surf contest. Six are invited.

- There was a Public Broadcasting System special recently, on crab larvae research, led by her advisor Steven Morgan. It also covered how larvae are relevant to science and to marine protected area design.

- The warm water blob still exists and may be more expansive and deep than measured in the past; it is located a bit more northward than in the past.

John Berge: The state is looking at the issue of using vessels of opportunity for spill response. The task force finished its work and the findings went to a technical advisory committee; then the issue will go to the Office of Spill Prevention and Response administrator. The state legislation that called for that assessment called for a risk assessment of emergency towing resources in the major ports. A group is looking at scenarios when a vessel loses power near a harbor and what the local towing capabilities are. Both the San Francisco and Los Angeles-Long Beach Harbor Safety Committees have been working on the issue, since spring. The Harbor Safety Committees should have their reports in to the administrator by early next year. Smaller ports will do a similar exercise at a later date.

Bill Wolpert: Sonoma County drafted a climate action 2020 plan earlier this year; however, the county was sued; at issue is the environmental review. The next step would be for the County to adopt the plan, then for each community to develop their own climate action plans.

- As a candidate for public office, he uses the useful information learned as Sanctuary Advisory Council meetings when out in the community.

Brian Johnson: there will be a whale soiree at the Bay Model on November 19, including a talk about biomechanics and whale behavior.

- After a 12-15 year process, derelict moorings in Tomales Bay are being removed this week.
- GFNMS is releasing a climate action plan being at the November 14 meeting of its advisory council, and the report will be posted on the sanctuary's website.
- The video taken during the cruise of the Nautilus is yielding video and still photographs.
- A 528-foot dry dock sank in the northern portion of Monterey Bay National Marine Sanctuary, an area managed by GFNMS; staff members will be looking at the circumstances of the accident.

George: On the Local Coastal Plan for Marin County, there have been debates between the County and the California Coastal Commission about how to protect homes from sea level rise. After a six hour discussion at the recent Commission meeting, no decision was made.

Todd Steiner: In the treaty that deals with trade of endangered species in South Africa, a number of marine species were placed in Appendix 2; as part of that, a thresher shark complex may occur in CBNMS.

- There was an investigative report recently on a local NBC station, critical of the California drift gillnet fishery; one fact reported was the fishery takes more marine mammals than all other West Coast fisheries combined. Todd will send the link to Lilli to provide to the advisory council
- His organization will do an education program for teachers, funded by NOAA Bay Water Education and Training, focusing on headwaters to oceans.
- Previously, his organization receives a Hollings grant with Flower Garden Banks National Marine Sanctuary, and they have been invited to do it again. He would like to meet with Jennifer to figure out how more how they can do more here.
- The 10,000 Redwoods work is going well; it is a climate change/resiliency-related project.
- Local work is being done on building habitat resiliency and carbon sequestration. Old houses along Lagunitas Creek were demolished. A ready mix concrete plant was removed years ago, a berm by a parking lot was removed. Habitat restoration work will be proceeding and the result will be a bigger floodplain.

Noah Wagner: The recreational fishing season for crab starts the Saturday following this meeting, with the warning mentioned by Dick.

- Recently, a vessel ran aground on Salmon beach, and another one sank on the mooring in Bodega Bay. The USCG responded, and fuel was taken off both boats. The challenge is to find funding to remove the vessels as the owners do not have funds.

George adjourned the meeting at 2:58 PM.